Mohammadali Sheikholeslam

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ACADEMIC BACKGROUND

- **Assistant Professor** **(**Sep 2019-Now)
  Department of Biomaterials, Nanotechnology and Tissue engineering,
  School of Advanced Technologies in Medicine,
  Isfahan University of Medical Sciences, Isfahan, Iran

- **Postdoctoral Fellow** **(**Oct 2015-Aug 2019)
  Sunnybrook Research Institute, Ross Tilley Burn Centre, Sunnybrook Hospital
  Department of Surgery, Institute of Biomedical Engineering, University of Toronto, Canada
  Supervisor: Dr. Marc Jeschke, Dr. Paul Santerre
  Research Objective: **Developing Gel-PU Scaffolds for Skin Regeneration**

- **Ph.D.** Tissue Engineering **(**Sep 2009-May 2015)
  University of Waterloo, Canada
  Supervisors: Dr. Pu Chen, Dr. Mark Pritzker
  Ph.D. Thesis: **Self-Assembling Peptide-CNT Dispersions & Hydrogels for Tissue Engineering & Biosensor Applications**
  Dispersing CNTs using SA peptides, applying them to: modify a biosensor, making hybrid hydrogels as scaffolds for tissue regeneration and providing 3D environment for cancer tumor modeling

- **M.Sc.** Materials Engineering, Materials selection and processing (2005-2008)
  Isfahan University of Technology- Iran
  Supervisors: Dr. Enayati, Dr. Raeissi
  M.Sc. Thesis: **Investigation of Nanocrystalline and Amorphous Co-P Coatings Produced by DC Electrodeposition**

- **B.Sc**. Materials Engineering, Industrial Metallurgy (2000-2005)
  Shahid Chamran University of Ahvaz- Iran

RESEARCH INTERESTS

Tissue Engineering, Nano-biomaterials, Skin Regeneration, Hydrogels & Scaffolds, Cell and Tumor Microenvironment, Biosensors, Disease Modeling, Organ-On-Chips, Atomic Force Microscopy

TECHNICAL SKILLS

In vitro & *in vivo* techniques, Animal handling, Soft lithography, AFM, SEM, TEM, Confocal microscopy, Flow Cytometry, FACS, Western Blot, DLS, Fluorescence spectroscopy, UV/Vis. spectrophotometer, FTIR

ENTREPRENEURSHIP

- Recipient of Vice President for Science & Technology award for setting up knowledge-based start-ups (1,500,000,000 Rials) / Host: Isfahan Health Sci. & Tech. Park)
- TASNIM Biomaterials Co. (Founder and CEO)

REFEREED JOURNALS PUBLICATIONS

1. **Sheikholeslam, M.**; Nanda, P.; Pritzker, M.; Chen, P. Immobilization, Direct Electrochemistry and Electrocatalysis of Hemoglobin on Peptide-Carbon Nanotube Modified Electrode, *bioRxiv* preprint doi: https://doi.org/10.1101/2020.06.16.153767

2. **Sheikholeslam, M.**; Wright, M.; Cheng, N.; Oh, H.; Wang, Y.; Datu, A. K.; Santerre, J. Paul; Amini-Nik, S.; Jeschke, M. Electrospun Polyurethane-Gelatin Composite: A New Tissue Engineered Scaffold for Application in the Skin Regeneration and Repair of Complex Wounds, *ACS Biomaterials Science & Engineering*, 2020, 6, 505-516. **IF: 4.75**

3. Cheng, N.; Jeschke, M.; **Sheikholeslam, M.**; Datu, A.; Oh, H.; Amini-Nik, S. Promotion of Dermal Regeneration using Pullulan/Gelatin Porous Skin Substitute. *Journal of Tissue Engineering and Regenerative Medicine*, 2019, 13(11), 1965-1977. **IF: 3.96**

4. Bakhtyar, N.; Jeschke, M.; Herer, E.; **Sheikholeslam, M.**; Amini-Nik, S. Exosomes from acellular Wharton's jelly of the human umbilical cord promotes skin wound healing. *Stem Cell Research & Therapy*, 2018, 9, 193. **IF: 6.83**

5. **Sheikholeslam, M.**; Wheeler S.; Duke K.; Pritzker, M.; Chen, P. Peptide and Peptide-Carbon Nanotube Hydrogels as Scaffolds for Tissue & 3D Tumor Engineering. *Acta Biomaterialia*, 2018, 69, 107-119. **IF: 8.95**

6. **Sheikholeslam, M.**; Wright, M. E. E., Amini-Nik, S., Jeschke, M. G. Biomaterials for Skin Substitutes. *Advanced Healthcare Materials*, 2018, 7(5), 1700897. **IF: 9.93**

7. **Sheikholeslam, M.**; Pritzker, M.; Chen, P. Hybrid Peptide–Carbon Nanotube Dispersions and Hydrogels. *Carbon*, 2014, 71, 284–293. **IF: 9.59**

8. **Sheikholeslam, M.**; Pritzker, M.; Chen, P. Dispersion of multi-walled carbon nanotubes in water using ionic-complementary peptides. *Langmuir*, 2012, 28, 12550–12556. **IF: 3.88**

9. **Sheikholeslam, M. A.;** Raeissi, K.; Enayati, M. H. Study on Corrosion Behaviour of Nanocrystalline and Amorphous Co-P Electrodeposits, *Transactions of the Institute of Metal Finishing*, 2010, 88(6), 324-329. **IF: 1.24**

10. **Sheikholeslam, M. A.;** Enayati, M. H.; Raeissi, K. Charracterization of Nanocrystalline and Amorphous Cobalt-Phosphorous Electrodeposits, *Materials Letters*, 2008, 62, 3629-3631. **IF: 3.42**

PRESENTATIONS

1) Learn at Lunch, Sunnybrook Research Institute, March 28, 2018
2) Learn n Lunch, Sunnybrook Research Institute, May 1, 2019

INVITED BOOK CHAPTER

1. **Sheikholeslam, M**; Pritzker, M. D.; Chen, P; "*Electrochemical Biosensor for Glycated Hemoglobin (HbA1c)"*, Book Chapter, **Biosensors for Health, Environment and Biosecurity / Book 2,** Intech-Open Access Publisher, Rijeka, Croatia, ISBN 978-953-307-443-6, 28 pages.

REFEREED CONFERENCE PROCEEDINGS

1. **Sheikholeslam, M.** et. al., Developing an Economical Fibrous Gelatin-Polyurethane Scaffold for Skin Regeneration, *Society for Biomaterials*, **Seattle**, WA, USA, April 3-6, 2019. (**Oral**)

3. **Sheikholeslam, M.** et. al., Electrospun Gelatin-Polyurethane Scaffold for Skin Tissue Engineering, *Canadian Burn Conference*, **Toronto**, ON, Canada, October 28-30, 2018. (**Oral**)

4. **Sheikholeslam, M.** et. al.; Composite Gelatin-Polyurethane Electrospun Scaffold for Skin Regeneration, *Skin Research Group Conference 2018*, **Montreal**, QC, Canada, Jun 22-24, 2018. (**Oral**)

5. **Sheikholeslam, M.** et. al.; Engineering and Basic Science Meet Clinic: Dermal Skin Substitute for Burn Patients, *Canadian Connective Tissue Conference 2018*, **Toronto**, ON, Canada, May 23-25, 2018. (**Oral**)

7. **Sheikholeslam, M.** et. al.; Electrospun Polyurethane-Gelatin Scaffolds for Manufacturing Skin Substitute, *ISSCR 2017 Annual Meeting*, **Boston**, MA, USA, Jun 14-17, 2017. (Poster)

8. **Sheikholeslam, M.** et. al.; Electrospun Polyurethane-Gelatin Scaffolds for Skin Substitute, *Canadian Biomaterials Society 2017 Annual Meeting*, **Winnipeg**, MB, Canada, May 24-27, 2017. (**Oral**)

9. **Sheikholeslam, M.** et. al.; Polyurethane-Gelatin Scaffolds for Skin Substitute, *Canadian Connective Tissue Conference 2017*, **Montreal**, QC, Canada, May 17-18, 2017. (**Oral**)

10. **Sheikholeslam, M.**; Wheeler, S.; Duke, K.; Pritzker, M.; Chen, P.; Peptide-Carbon Nanotube Hydrogels as Hybrid Scaffolds for Tissue Engineering, *TERMIS 2014*, **Washington DC**, USA, Dec 12-16, 2014.

AWARDS AND SCHOLARSHIPS

- Summer-by-Design 2-weeks International Workshop on Translating and Commercializing Regenerative Medicine (Medicine-by-Design/ University of Toronto) (2019)
- International Society for Stem Cell Research (ISSCR) 2017 Travel Grant from Medicine-by-Design (University of Toronto) (2017, Value $2000)
- UW Department of Chemical Engineering Scholarship Merit Award (W2015, Value: $1000)
- U of Waterloo International Doctoral Student Award (F2009-S2013, Value: $9660/year)
- U of Waterloo Graduate Research Studentship (F2009-W2015, Value: $21000/year)
- Iran Nanotechnology Initiative Council Scholarship (2008, Value: $2000)

TEACHING EXPERIENCES

- **Materials Science** (Mehr 1399)
  Isfahan University of Medical Sciences
- **Nano Engineering Lab 451 (Atomic Force Microscopy)** (F 2011)
  University of Waterloo
- **Chemical Engineering Lab 4 (Electrochemistry)** (W & F 2010, W & F 2012, F 2013)
  University of Waterloo
- **General Chemistry**
  Azad University of Lenjan, Isfahan, Iran (Fall 2008)
- **General Chemistry Lab**
  Azad University of Lenjan, Isfahan, Iran (Fall 2008)

COURSES TAKEN (During PhD)

- **Interfacial Phenomena- CHE 612**
- **Fundamentals of Nanotechnology (Self-Assembly Phenomena)- NANO 701**
- **Nanotechnology Tools (Self-Assembly Tools)- NANO 702**
- **Nanoscale Fabrication Tools- NANO 702**
- **Fundamentals of Nanotechnology (Molecular Biophysics)- NANO 701**

University of Waterloo, Chemical Engineering & Waterloo Institute for Nanotechnology, Canada

COURSES AUDITED (During PDF)

- **Human Physiology (as Related to Bioengineering)- JPB1022H**
- **Regenerative Medicine- MSC7000Y**
- **Microfluidics and Laboratory-on-a-Chip Systems- MIE1232S**
- **Regulation of Signaling Pathways- BCH426**
- **Cellular Imaging in Pathobiology- LMP1006H**

University of Toronto, Canada

GRANT PROPOSAL

- Contribution to writing a CFI grant in 2019 (contribution to idea); ~ **CAD$ 800,000** (in the Dr. Jeschke lab) (2017)
- Significant contribution to writing a CIHR grant in 2017 (contribution to idea and preliminary results); ~ **CAD$ 750,000** (in the Dr. Jeschke lab) (2017)
- Independently writing a successful NSERC (RTI) Grant proposal for an Atomic Force Microscope (AFM); **CAD$ 150,000** (Under supervision of Dr. Chen). (2012)

SUPERVISION

- I am currently serving as the co-supervisor or consulting supervisor of some MSc, Ph.D. and PDF researchers at Isfahan University of Medical Sciences, Isfahan University of Technology, University of Isfahan and Iran University of Science and Technology
- I have supervised 5 co-op students during my Ph.D. and postdoc, whose works of three of them are reflected in my papers and their names are appeared as co-author: **S. Wheeler**, **K. Duke** and **P. Nanda**.

MEMBERSHP

- International Society for Stem Cell Research (ISSCR) (2017)
- Canadian Biomaterials Society (2017)
- Tissue Engineering and Regenerative Medicine Society (2014)
- Iran Surface Science & Engineering (2007)

SERVICE

- Reviewer: **ACS NANO, Biomaterials, Acta Biomaterialia, Cell Biology International**, **ACS Applied Materials & Interfaces,** etc.

INDUSTRIAL EXPERIENCES

- **Researcher** in Esfahan's Mobarake Steel Company R&D Unit (10/2007-08/2009)
  - ***A) Corrosion Research Centre:***
  - 1- Investigation of EAF Cooling Panels Failure and Proposing Solutions.
  - ***B) Isfahan Parsayesh Research and Engineering Center (ISST, Isfahan, Iran):***
  - 2- Wear Resistant Ceramic Liners for Using in The Chutes
  - 3- Investigation of Hot Rolling Al-Bronze Slipper Pads Failure Mechanisms and Proposing Solutions.
- **Researcher, Materials Research Core** (07/2007-09/2007)
  Isfahan Science and Technology Town (ISST), Isfahan, Iran)
- **Co-op** (07/2003-09/2003)
  Steel-making Site of Esfahan's Mobarake Steel Company